IN THE CLAIMS

Please cancel Claim 15 without prejudice or disclaimer.

Claims 1 and 2 (cancelled)

Claim 3 (previously presented): An automatic gain control (AGC) circuit, comprising:

an input adapted to receive a signal;

a compression circuit coupled to the input having a compression ratio, the compression ratio being applied to the signal exceeding a first predetermined threshold, the compression ratio being applied as a function of a predetermined signal peak level,

wherein said circuit further comprises a gain applied to the signal, which gain is not uniformly distributed to the signal, and

wherein the gain comprises a canonical signed digit (CSD) multiplier.

Claim 4 (currently amended): An automatic gain control (AGC) circuit, comprising:

an input adapted to receive a signal;

a compression circuit coupled to the input having a compression ratio, the compression ratio being applied to the signal exceeding a first predetermined threshold, the compression ratio being applied as a function of a predetermined signal peak level,

wherein said circuit further comprises a gain applied to the signal, which gain is not uniformly distributed to the signal, and

wherein the gain comprises a canonical signed digit (CSD) multiplier, ~~The automatic gain control circuit as specified in Claim 3~~ wherein a maximum gain step of the gain is between 0.25 and 0.5dB.

Claim 5 (cancelled).

Claim 6 (original): The automatic gain control circuit as specified in Claim 3 wherein the CSD multiplier adjusts the gain in real time.

Claim 7 (currently amended): An automatic gain control (AGC) circuit, comprising:

an input adapted to receive a signal;

a compression circuit coupled to the input having a compression ratio, the compression ratio being applied to the signal exceeding a first predetermined threshold, the compression ratio being applied as a function of a predetermined signal peak level,

wherein said circuit further comprises a gain applied to the signal, which gain is not uniformly distributed to the signal,

wherein the gain comprises a canonical signed digit (CSD) multiplier; and

~~The automatic gain control circuit as specified in Claim 3 further comprising~~ a look-up table storing discrete sound pressure level (SPL) values and a second table storing information indicative of gain values.

Claim 8 (original): The automatic gain control circuit as specified in Claim 7 further comprising a state machine tracking a peak level of the signal such that positions of an upper and lower SPL value is determined in one table.

Claim 9 (original): The automatic gain control circuit as specified in Claim 8 wherein the gain value in the second table is a function of the state machine tracking.

Claim 10 (original): The automatic gain control circuit as specified in Claim 7 wherein the second table stores CSD codes rather than actual gain values.

Claim 11 (original): The automatic gain control circuit as specified in Claim 10 further comprising a table storing only a fraction of actual gain values.

Claim 12 (original): The automatic gain control circuit as specified In Claim 11 wherein remaining actual gain values are determined by a scale factor.

Claim 13 (original): The automatic gain control circuit as specified in Claim 12 wherein the scale factor is a 2^S scale factor.

Claim 14 (original): The automatic gain control circuit as specified in Claim 12 wherein the scale factor is a simple shift.

Claim 15 (previously presented): An automatic gain control (AGC) circuit, comprising:
an input adapted to receive a signal;
a compression circuit coupled to the input having a compression ratio, the compression ratio being applied to the signal exceeding a first predetermined threshold, the compression ratio being applied as a function of a predetermined signal peak level,
wherein the compression circuit comprises a state machine having a first and second comparator and a first and second register, the first comparator comparing the input signal to the content of the first register and the second comparator comparing the input signal to the content of the second register.

Claim 16 (currently amended): An automatic gain control (AGC) circuit, comprising:
an input adapted to receive a signal;
a compression circuit coupled to the input having a compression ratio, the compression ratio being applied to the signal exceeding a first predetermined threshold, the compression ratio being applied as a function of a predetermined signal peak level,
wherein the compression circuit comprises a state machine having a first and second comparator and a first and second register, the first comparator comparing the input signal to the content of the first register and the second comparator comparing the input signal to the content of the second register,
~~The automatic gain control circuit as specified in Claim 15~~ wherein the content of the first register is moved to the second register when the input signal exceeds the first predetermined threshold.

Claim 17 (original): The automatic gain control circuit as specified in Claim 16 further comprising a third and fourth register, wherein the content of the third register is also responsively moved to the fourth register and the content of the third register is decreased by 1.

Claim 18 (original): The automatic gain control circuit as specified in Claim ~~2~~ 3 wherein the gain has hysteresis.

Claim 19 (original): The automatic gain control circuit as specified in Claim 7 wherein the SPL values are uniformly distributed.

Claim 20 (original): The automatic gain control circuit as specified in Claim 7 wherein the SPL values are not uniformly distributed.

Claim 21 (original): The automatic gain control circuit as specified in Claim 11 wherein the gain values are divided into blocks of numbers, the blocks being scaled with respect to each other.

Claim 22 (original): The automatic gain control circuit as specified in Claim 21 wherein the scaling of blocks is by a power-of-two.

Claims 23 and 24 (cancelled).

Claim 25 (currently amended): A method of providing automatic gain control (AGC) to an input signal, comprising the steps of:
providing a compression ratio to the input signal when the input signal exceeds a first predetermined threshold; and
applying a gain to the input signal, wherein the gain is not uniformly distributed to the signal,
wherein the gain is applied by a canonical signed digit (CSD) multiplier.

Claim 26 (original): The method as specified in Claim 25 wherein the gain is applied after evaluating the compression ratio.

Claim 27 (original): The method as specified in Claim 25 wherein the CSD multiplier adjusts the gain in real time.

Claim 28 (currently amended): A method of providing automatic gain control (AGC) to an input signal, comprising the steps of:

providing a compression ratio to the input signal when the input signal exceeds a first predetermined threshold; and

applying a gain to the input signal, wherein the gain is not uniformly distributed to the signal,

wherein the gain is applied by a canonical signed digit (CSD) multiplier,

The method as specified in Claim 24 further comprising a look-up table storing discrete sound pressure level (SPL) values and a second table storing information indicative of gain values.

Claim 29 (original): The method as specified in Claim 28 further comprising a state machine tracking a peak level of the signal such that positions of an upper and lower SPL value is determined in one table.

Claim 30 (original): The method as specified in Claim 29 wherein the gain value in the second table is a function of the state machine tracking.

Claim 31 (original): The method as specified in Claim 25 wherein the second table stores CSD codes rather than actual gain values.

Claim 32 (original): The method as specified in Claim 31 further comprising a table storing only a fraction of actual gain values.

Claim 33 (original): The method as specified in Claim 32 wherein remaining actual gain values are determined by a scale factor.